Park resources protected from Washington Aqueduct discharges

By Jeff Bernstein, Doug Curtis, Sharon Kliwinski, and Gary Rosenlieb

THE U.S. ARMY CORPS OF ENGINEERS (the Corps) began construction of the Washington Aqueduct at the direction of Congress in 1853. Today the Corps owns and operates the Washington Aqueduct as wholesale water production facilities that provide all the potable water to about one million consumers in Washington, D.C., and parts of northern Virginia.

The aqueduct functioned for decades prior to the establishment of the Chesapeake and Ohio Canal National Historical Park in 1971, and now periodically flushes sediment through the park and into the Potomac River. The sediment discharges, their regulation, and their impact on park resources and the ecology of the river have raised public concern and controversy over the past couple of years.

"The aqueduct is one of a few water treatment facilities in the country that still discharges sediment back into a river instead of transporting it to a disposal facility."

The aqueduct system draws water from the Potomac River above Great Falls, Maryland, and carries it via an underground conduit to water treatment facilities in Maryland and the District of Columbia. During the treatment process, sediments from the river water bind with alum and settle in basins. Several times per year the basins are flushed to remove sediment buildup. Approximately 10,000 tons (9,070 tonnes) of alum-laden sediments are discharged annually to the Potomac River. Two conduits discharge sediments on parklands that flow to the Potomac River; a third discharges directly into the river. Chlorine used in cleaning the sediment basins and potentially toxic concentrations of naturally occurring metals such as iron may also be discharged. The aqueduct is one of a few water treatment facilities in the country that still discharges sediment back into a river instead of transporting it to a disposal facility.

Several agencies are involved in managing resources affected by the discharges. The National Park Service manages the park resources and, because of the unique relationship between the federal government and the District of Columbia, it also manages the Potomac River bed in the district as miscellaneous property for the Secretary of the Interior. The U.S. Fish and Wildlife Service manages resident and migratory fish species in the area of the discharges. The National Marine Fisheries Service is responsible for the shortnose sturgeon, an endangered species under the Endangered Species Act.

In 2001 the sediment discharges spawned numerous congressional inquiries and hearings and the filing of two lawsuits in federal court. The lawsuits claimed that responsible federal agencies did not properly account for the cumulative effects of the discharges on the environment and that the discharges violate the Corps's Clean Water Act permit issued by the U.S. Environmental Protection Agency (EPA).

In light of heightened public scrutiny, the Department of the Interior (the Department), with extensive technical and policy support of the National Park Service and Fish and Wildlife Service, evaluated its legal options and subsequently engaged in renewal of the Corps's discharge permit. Comments submitted during the permitting process focused on the adequacy of technical and scientific investigations underlying the draft permit and that the permit might not adequately protect park and Potomac River resources. The Department called for elimination of the sediment discharges, an option the Corps had resisted.

After two public comment periods, the final permit issued by the EPA included provisions that will result in significant reductions in discharged sediments and other pollutants to protect park and aquatic resources. Barring financial or other potential difficulties, it will take about seven years to build the physical facilities necessary to implement the permit. Because of this delay, the permit also requires that a number of studies requested by the National Park Service, the Fish and Wildlife Service, and the National Marine Fisheries Service be undertaken by the Corps to assess impacts of ongoing discharges on affected resources. This information could prove helpful in devising interim strategies for mitigating resource damage.

Although the Department of the Interior and the National Marine Fisheries Service were largely pleased with the final permit, the Corps was not. It filed an appeal with the EPA Environmental Appeals Board challenging the agency's authority to require environmental studies in the permit. Through facilitated negotiations, the agencies have reached a conceptual agreement that, if adopted after public notice and comment, will ensure that the necessary studies are conducted while meeting the needs of all agencies. Additionally, the agencies are working on a letter of understanding designed to ensure better interagency coordination on permit implementation issues.

The interpretation and use of good science and a detailed evaluation of legal options played important roles in shaping the Clean Water Act permit for the aqueduct. In light of the provisions of the final permit and the compliance agreement, the National Park Service and other federal parties are optimistic that operation of the Washington Aqueduct will eventually cease harming park resources and the aquatic resources of the Potomac River. ■

Jeff Bernstein
Attorney, Division of Parks and Wildlife, Office of the Solicitor, Department of the Interior; Washington, D.C.

doug_curtis@nps.gov
Hydrologist, National Capital Region; Washington, D.C.

sharon_kliwinski@nps.gov
Washington Liaison, Water Resources Division; Washington, D.C.

gary_rosenlieb@nps.gov
Water Quality Program Team Leader, Water Resources Division; Fort Collins, Colorado

Several times per year sediments and potentially toxic concentrations of iron and other naturally occurring metals are flushed from a water treatment facility and flow through this discharge structure in Chesapeake and Ohio Canal National Historical Park en route to the Potomac River. The discharge permit, held by the U.S. Army Corps of Engineers, was reviewed in 2003, resulting in significant future reductions in the amount of sediments and other pollutants that can be released from the facility to protect park and river resources.